



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
30.11.2005 Bulletin 2005/48

(51) Int Cl.7: **G03F 7/20**

(43) Date of publication A2:
10.12.2003 Bulletin 2003/50

(21) Application number: **03011886.3**

(22) Date of filing: **27.05.2003**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**
Designated Extension States:
AL LT LV MK

(30) Priority: **07.06.2002 US 386408 P**
12.12.2002 US 432725 P
18.03.2003 US 390806

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(54) **Characterisation of lithography apparatus**

(57) In one aspect, the present invention is a technique of, and a system and sensor for measuring, inspecting, characterizing and/or evaluating optical lithographic equipment, methods, and/or materials used therewith, for example, photomasks. In one embodiment, the system, sensor and technique measures, collects and/or detects an aerial image produced or generated by the interaction between the photomask and lithographic equipment. An image sensor unit may measure, collect, sense and/or detect the aerial image in situ - that is, the aerial image at the wafer plane produced, in part, by a product-type photomask (i.e., a wafer having integrated circuits formed during the integrated circuit fabrication process) and/or by associated lithographic equipment used, or to be used, to manufacture of integrated circuits. In this way, the aerial image used, generated or produced to measure, inspect, characterize and/or evaluate the photomask is the same aerial image used, generated or produced during wafer exposure in integrated circuit manufacturing.

In another embodiment, the system, sensor and technique characterizes and/or evaluates the performance of the optical lithographic equipment, for example, the optical sub-system of such equipment. In this regard, in one embodiment, an image sensor unit measures, collects, senses and/or detects the aerial image produced or generated by the interaction between lithographic equipment and a photomask having a known, predetermined or fixed pattern (i.e., test mask). In this

way, the system, sensor and technique collects, senses and/or detects the aerial image produced or generated by the test mask - lithographic equipment in order to inspect, evaluate and/or characterize the performance of the lithographic equipment.

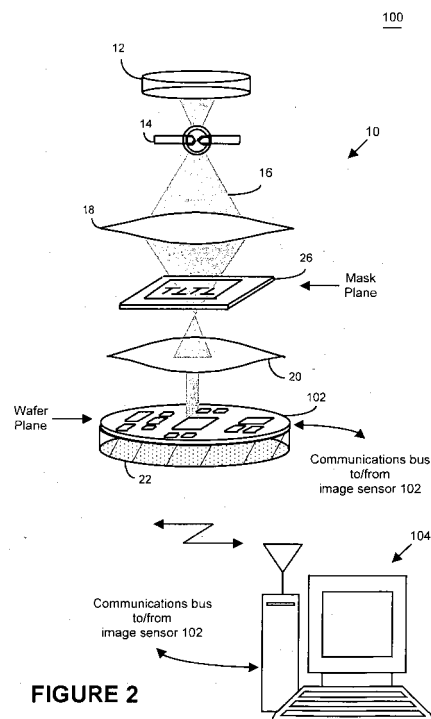


FIGURE 2



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 03 01 1886

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 5 October 2005	Examiner Menck, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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